

Amendment to the Specification

Please replace the paragraph beginning at page 3, line 5, with the following rewritten paragraph:

--The separator is a microporous membrane. It may be a single ply or multi-ply membrane. All separators should have sufficient mechanical strength to withstand the rigors of battery manufacture and battery use. Additionally, the separator should have sufficient thermal stability and shutdown capability. Thermal stability refers to the membrane's ability to substantially maintain its physical dimension during the abnormal conditions associated with thermal runaway (e.g. tolerable shrinkage at elevated temperature, and able to prevent physical contact of anode and cathode at elevated temperature). Shutdown capability refers to the membrane's ability to substantially close its pores, through which the electrolyte's ions conduct current flow between the anode and the cathode, as a result of thermal runaway. Shutdown should occur at a temperature of less than 130°C (this will be illustrated in greater detail below), and shutdown should occur sharply (e.g. the breadth of temperature response for shutdown is narrow, about 4-5°C). A microporous membrane preferably has a shutdown temperature of less than about 130°C.

Please replace the paragraph beginning at page 5, line 4, with the following rewritten paragraph:

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-- The inventive microporous polyolefinic membrane is made from a blend of a polyolefin polymer and an oligomer of a polyolefinic polymer. Polymer, as used herein, refers to a long chain molecular structure in which the addition or deletion of monomers does not significantly impact its physical properties. An oligomer, as used herein, refers to a short chain polymer whose properties change with the addition or removal of the repeating units (or monomer). The oligomer does not have to be made from the same repeating units (or monomer) as the polymer. The polymer contemplated for use in the instant application refer to ones based on C₁ - C₇ repeating units (or monomer). Likewise, the oligomer contemplated for use herein refer to C₁ - C₇ based monomers. Polymers include polyethylene, polypropylene, polybutylene, and polymethylpentene. Polyethylene is preferred, and high density polyethylene (HDPE) is most preferred, and medium molecular weight high density polyethylene is most preferred. The preferred oligomer includes polyethylene wax having a molecular weight of less than 6000. Most preferred is a polyethylene wax having a molecular weight in the range of 200 - 5600. The polymer and oligomer are blended (or mixed) together, so that the oligomer is uniformly distributed throughout the polymer. The blends may comprise less than 50% by weight oligomer, most preferred are in the range of 2 - 40%. Oligomer is chosen so that it is easily blendable with the polymer.--